William J Riley

List of Publications by Year
in descending order

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Version: 2024-02-01

214 papers	15,318 citations	20817 60 h-index	22166 113 g-index
294 all docs	294 docs citations	294 times ranked	15116 citing authors

#	Article	IF	Citations
1	Seasonal and interannual variability in ¹³C composition of ecosystem carbon fluxes in the U.S. Southern Great Plains. Tellus, Series B: Chemical and Physical Meteorology, 2022, 63, 181.	1.6	21
2	Boreal lakes moderate seasonal and diurnal temperature variation and perturb atmospheric circulation: analyses in the Community Earth System Model 1 (CESM1). Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 64, 15639.	1.7	31
3	Regional trends and drivers of the global methane budget. Global Change Biology, 2022, 28, 182-200.	9.5	56
4	Rapidly changing high-latitude seasonality: implications for the 21st century carbon cycle in Alaska. Environmental Research Letters, 2022, 17, 014032.	5.2	5
5	Carbon Accumulation, Flux, and Fate in Stordalen Mire, a Permafrost Peatland in Transition. Global Biogeochemical Cycles, 2022, 36, .	4.9	5
6	Deforestation triggering irreversible transition in Amazon hydrological cycle. Environmental Research Letters, 2022, 17, 034037.	5.2	22
7	Representing plant diversity in land models: An evolutionary approach to make â€œFunctional Typesâ€• more functional. Global Change Biology, 2022, 28, 2541-2554.	9.5	28
8	Plant organic matter inputs exert a strong control on soil organic matter decomposition in a thawing permafrost peatland. Science of the Total Environment, 2022, 820, 152757.	8.0	15
9	Guidelines for Publicly Archiving Terrestrial Model Data to Enhance Usability, Intercomparison, and Synthesis. Data Science Journal, 2022, 21, 3.	1.3	3
10	Microbial contribution to post-fire tundra ecosystem recovery over the 21st century. Communications Earth & Environment, 2022, 3, .	6.8	6
11	Supporting hierarchical soil biogeochemical modeling: version 2 of the Biogeochemical Transport and Reaction model (BeTR-v2). Geoscientific Model Development, 2022, 15, 1619-1632.	3.6	1
12	CO ₂ fertilization of terrestrial photosynthesis inferred from site to global scales. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2115627119.	7.1	51
13	Building a machine learning surrogate model for wildfire activities within a global Earth system model. Geoscientific Model Development, 2022, 15, 1899-1911.	3.6	13
14	Wetter California Projected by CMIP6 Models With Observational Constraints Under a High GHG Emission Scenario. Earth's Future, 2022, 10, .	6.3	11
15	Understanding and reducing the uncertainties of land surface energy flux partitioning within CMIP6 land models. Agricultural and Forest Meteorology, 2022, 319, 108920.	4.8	16
16	Spatiotemporal Variations of Evapotranspiration in Amazonia Using the Wavelet Phase Difference Analysis. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	2
17	Dispersal and fire limit Arctic shrub expansion. Nature Communications, 2022, 13, .	12.8	6
18	Global stocks and capacity of mineral-associated soil organic carbon. Nature Communications, 2022, 13, .	12.8	146

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19	Scale matters in understanding the complexity of Amazon fires: A response to the Editor. Global Change Biology, 2021, 27, e2-e4.	9.5	2
20	On the modeling paradigm of plant root nutrient acquisition. Plant and Soil, 2021, 459, 441-451.	3.7	9
21	Changes in precipitation and air temperature contribute comparably to permafrost degradation in a warmer climate. Environmental Research Letters, 2021, 16, 024008.	5.2	52
22	Deforestation reshapes land-surface energy-flux partitioning. Environmental Research Letters, 2021, 16, 024014.	5.2	19
23	Topographical Controls on Hillslopeâ€Scale Hydrology Drive Shrub Distributions on the Seward Peninsula, Alaska. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2020JG005823.	3.0	13
24	Spatial heterogeneity and environmental predictors of permafrost region soil organic carbon stocks. Science Advances, 2021, 7, .	10.3	130
25	Warm-season net CO2 uptake outweighs cold-season emissions over Alaskan North Slope tundra under current and RCP8.5 climate. Environmental Research Letters, 2021, 16, 055012.	5.2	6
26	Substantial hysteresis in emergent temperature sensitivity of global wetland CH4 emissions. Nature Communications, 2021, 12, 2266.	12.8	34
27	Arctic tundra shrubification: a review of mechanisms and impacts on ecosystem carbon balance. Environmental Research Letters, 2021, 16, 053001.	5.2	121
28	Future increases in Arctic lightning and fire risk for permafrost carbon. Nature Climate Change, 2021, 11, 404-410.	18.8	103
29	Spatiotemporal Assessment of GHG Emissions and Nutrient Sequestration Linked to Agronutrient Runoff in Global Wetlands. Global Biogeochemical Cycles, 2021, 35, e2020GB006816.	4.9	18
30	Identifying dominant environmental predictors of freshwater wetland methane fluxes across diurnal to seasonal time scales. Global Change Biology, 2021, 27, 3582-3604.	9.5	59
31	Five years of whole-soil warming led to loss of subsoil carbon stocks and increased CO ₂ efflux. Science Advances, 2021, 7, .	10.3	98
32	The influence of fire aerosols on surface climate and gross primary production in the Energy Exascale Earth System Model (E3SM). Journal of Climate, 2021, , 1-60.	3.2	3
33	FLUXNET-CH₄: a global, multi-ecosystem dataset and analysis of methane seasonality from freshwater wetlands. Earth System Science Data, 2021, 13, 3607-3689.	9.9	79
34	Non-growing season plant nutrient uptake controls Arctic tundra vegetation composition under future climate. Environmental Research Letters, 2021, 16, 074047.	5.2	13
35	Finding Liebigâ€™s law of the minimum. Ecological Applications, 2021, 31, e02458.	3.8	13
36	Impoverishing Roots Will Improve Wheat Yield and Profitability Through Increased Water and Nitrogen Use Efficiencies. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2020JG005829.	3.0	7

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37	Conceptualizing Biogeochemical Reactions With an Ohm's Law Analogy. Journal of Advances in Modeling Earth Systems, 2021, 13, e2021MS002469.	3.8	2
38	Coupling plant litter quantity to a novel metric for litter quality explains C storage changes in a thawing permafrost peatland. Global Change Biology, 2021, , .	9.5	8
39	Improved ELMv1-ECA simulations of zero-curtain periods and cold-season CH₄ and CO₂ emissions at Alaskan Arctic tundra sites. Cryosphere, 2021, 15, 5281-5307.	3.9	5
40	Mathematical Reconstruction of Land Carbon Models From Their Numerical Output: Computing Soil Radiocarbon From C Dynamics. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001776.	3.8	6
41	Climate regime shift and forest loss amplify fire in Amazonian forests. Global Change Biology, 2020, 26, 5874-5885.	9.5	62
42	The DOE E3SM v1.1 Biogeochemistry Configuration: Description and Simulated Ecosystemâ€Climate Responses to Historical Changes in Forcing. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001766.	3.8	65
43	Modeling Green Roof Potential to Mitigate Urban Flooding in a Chinese City. Water (Switzerland), 2020, 12, 2082.	2.7	15
44	Lineageâ€based functional types: characterising functional diversity to enhance the representation of ecological behaviour in Land Surface Models. New Phytologist, 2020, 228, 15-23.	7.3	20
45	Alaskan carbon-climate feedbacks will be weaker than inferred from short-term experiments. Nature Communications, 2020, 11, 5798.	12.8	18
46	Linear two-pool models are insufficient to infer soil organic matter decomposition temperature sensitivity from incubations. Biogeochemistry, 2020, 149, 251-261.	3.5	13
47	Assessing Impacts of Plant Stoichiometric Traits on Terrestrial Ecosystem Carbon Accumulation Using the E3SM Land Model. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001841.	3.8	14
48	More fertilizer and impoverished roots required for improving wheat yields and profits under climate change. Field Crops Research, 2020, 249, 107756.	5.1	12
49	Earlier leaf-out warms air in the north. Nature Climate Change, 2020, 10, 370-375.	18.8	45
50	The Central Amazon Biomass Sink Under Current and Future Atmospheric CO₂: Predictions From Bigâ€Leaf and Demographic Vegetation Models. Journal of Geophysical Research G: Biogeosciences, 2020, 125, e2019JG005500.	3.0	23
51	Effect of Cover Crop on Carbon Distribution in Size and Density Separated Soil Aggregates. Soil Systems, 2020, 4, 6.	2.6	8
52	Ensemble Machine Learning Approach Improves Predicted Spatial Variation of Surface Soil Organic Carbon Stocks in Data-Limited Northern Circumpolar Region. Frontiers in Big Data, 2020, 3, 528441.	2.9	22
53	Hysteretic temperature sensitivity of wetland CH₄ fluxes explained by substrate availability and microbial activity. Biogeosciences, 2020, 17, 5849-5860.	3.3	19
54	The Global Methane Budget 2000â€“2017. Earth System Science Data, 2020, 12, 1561-1623.	9.9	1,199

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55	Landsat near-infrared (NIR) band and ELM-FATES sensitivity to forest disturbances and regrowth in the Central Amazon. Biogeosciences, 2020, 17, 6185-6205.	3.3	7
56	Hierarchical sensitivity analysis for a large-scale process-based hydrological model applied to an Amazonian watershed. Hydrology and Earth System Sciences, 2020, 24, 4971-4996.	4.9	1
57	Development and Verification of a Numerical Library for Solving Global Terrestrial Multiphysics Problems. Journal of Advances in Modeling Earth Systems, 2019, 11, 1516-1542.	3.8	5
58	Hourly and daily rainfall intensification causes opposing effects on C and N emissions, storage, and leaching in dry and wet grasslands. Biogeochemistry, 2019, 144, 197-214.	3.5	12
59	The Community Land Model Version 5: Description of New Features, Benchmarking, and Impact of Forcing Uncertainty. Journal of Advances in Modeling Earth Systems, 2019, 11, 4245-4287.	3.8	692
60	Improving Representation of Deforestation Effects on Evapotranspiration in the E3SM Land Model. Journal of Advances in Modeling Earth Systems, 2019, 11, 2412-2427.	3.8	28
61	Competitor and substrate sizes and diffusion together define enzymatic depolymerization and microbial substrate uptake rates. Soil Biology and Biochemistry, 2019, 139, 107624.	8.8	25
62	Heterogeneous spring phenology shifts affected by climate: supportive evidence from two remotely sensed vegetation indices. Environmental Research Communications, 2019, 1, 091004.	2.3	12
63	Abiotic and Biotic Controls on Soil Organoâ€“Mineral Interactions: Developing Model Structures to Analyze Why Soil Organic Matter Persists. Reviews in Mineralogy and Geochemistry, 2019, 85, 329-348.	4.8	42
64	Methane Production Pathway Regulated Proximally by Substrate Availability and Distally by Temperature in a Highâ€Latitude Mire Complex. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 3057-3074.	3.0	24
65	Representing Nitrogen, Phosphorus, and Carbon Interactions in the E3SM Land Model: Development and Global Benchmarking. Journal of Advances in Modeling Earth Systems, 2019, 11, 2238-2258.	3.8	74
66	Expansion of high-latitude deciduous forests driven by interactions between climate warming and fire. Nature Plants, 2019, 5, 952-958.	9.3	101
67	Using Information Theory to Evaluate Directional Precipitation Interactions Over the West Sahel Region in Observations and Models. Journal of Geophysical Research D: Atmospheres, 2019, 124, 1463-1473.	3.3	8
68	Evaluation of the WRF lake module (v1.0) and its improvements at a deep reservoir. Geoscientific Model Development, 2019, 12, 2119-2138.	3.6	20
69	Soil Organic Matter Temperature Sensitivity Cannot be Directly Inferred From Spatial Gradients. Global Biogeochemical Cycles, 2019, 33, 761-776.	4.9	16
70	Comparison With Global Soil Radiocarbon Observations Indicates Needed Carbon Cycle Improvements in the E3SM Land Model. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 1098-1114.	3.0	9
71	Seasonal and Interannual Patterns and Controls of Hydrological Fluxes in an Amazon Floodplain Lake With a Surfaceâ€Subsurface Process Model. Water Resources Research, 2019, 55, 3056-3075.	4.2	30
72	The DOE E3SM Coupled Model Version 1: Overview and Evaluation at Standard Resolution. Journal of Advances in Modeling Earth Systems, 2019, 11, 2089-2129.	3.8	404

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73	Observed variation in soil properties can drive large variation in modelled forest functioning and composition during tropical forest secondary succession. New Phytologist, 2019, 223, 1820-1833.	7.3	40
74	Modeling Climate Change Impacts on an Arctic Polygonal Tundra: 2. Changes in CO₂ and CH₄ Exchange Depend on Rates of Permafrost Thaw as Affected by Changes in Vegetation and Drainage. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 1323-1341.	3.0	15
75	Modeling Climate Change Impacts on an Arctic Polygonal Tundra: 1. Rates of Permafrost Thaw Depend on Changes in Vegetation and Drainage. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 1308-1322.	3.0	17
76	A Theory of Effective Microbial Substrate Affinity Parameters in Variably Saturated Soils and an Example Application to Aerobic Soil Heterotrophic Respiration. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 918-940.	3.0	26
77	Size Distributions of Arctic Waterbodies Reveal Consistent Relations in Their Statistical Moments in Space and Time. Frontiers in Earth Science, 2019, 7, .	1.8	25
78	Large carbon cycle sensitivities to climate across a permafrost thaw gradient in subarctic Sweden. Cryosphere, 2019, 13, 647-663.	3.9	19
79	11. Abiotic and Biotic Controls on Soil Organoâ€“Mineral Interactions: Developing Model Structures to Analyze Why Soil Organic Matter Persists. , 2019, , 329-348.		0
80	Biochemical modeling of microbial memory effects and catabolite repression on soil organic carbon compounds. Soil Biology and Biochemistry, 2019, 128, 1-12.	8.8	11
81	The Thermodynamic Links between Substrate, Enzyme, and Microbial Dynamics in Michaelisâ€“Mentenâ€“Monod Kinetics. International Journal of Chemical Kinetics, 2018, 50, 343-356.	1.6	6
82	Vulnerability of Amazon forests to storm-driven tree mortality. Environmental Research Letters, 2018, 13, 054021.	5.2	49
83	21st century tundra shrubification could enhance net carbon uptake of North America Arctic tundra under an RCP8.5 climate trajectory. Environmental Research Letters, 2018, 13, 054029.	5.2	29
84	Observed and Simulated Sensitivities of Spring Greenup to Preseason Climate in Northern Temperate and Boreal Regions. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 60-78.	3.0	18
85	A method of alternating characteristics with application to advection-dominated environmental systems. Computational Geosciences, 2018, 22, 851-865.	2.4	3
86	The changing faces of soil organic matter research. European Journal of Soil Science, 2018, 69, 23-30.	3.9	35
87	Development and evaluation of a variably saturated flow model in the global E3SM Land Model (ELM) version 1.0. Geoscientific Model Development, 2018, 11, 4085-4102.	3.6	22
88	Multiple models and experiments underscore large uncertainty in soil carbon dynamics. Biogeochemistry, 2018, 141, 109-123.	3.5	169
89	The International Land Model Benchmarking (ILAMB) System: Design, Theory, and Implementation. Journal of Advances in Modeling Earth Systems, 2018, 10, 2731-2754.	3.8	175
90	Weaker landâ€“climate feedbacks from nutrient uptake during photosynthesis-inactive periods. Nature Climate Change, 2018, 8, 1002-1006.	18.8	37

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91	Deep Unsaturated Zone Contributions to Carbon Cycling in Semiarid Environments. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 3045-3054.	3.0	15
92	Predicted Land Carbon Dynamics Are Strongly Dependent on the Numerical Coupling of Nitrogen Mobilizing and Immobilizing Processes: A Demonstration with the E3SM Land Model. Earth Interactions, 2018, 22, 1-18.	1.5	15
93	Impacts of microtopographic snow redistribution and lateral subsurface processes on hydrologic and thermal states in an Arctic polygonal ground ecosystem: a case study using ELM-3D v1.0. Geoscientific Model Development, 2018, 11, 61-76.	3.6	17
94	Accelerated Nutrient Cycling and Increased Light Competition Will Lead to 21st Century Shrub Expansion in North American Arctic Tundra. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 1683-1701.	3.0	38
95	Greening of the land surface in the worldâ€™s cold regions consistent with recent warming. Nature Climate Change, 2018, 8, 825-828.	18.8	159
96	Enhanced methane emissions from tropical wetlands during the 2011 La NiÃ±a. Scientific Reports, 2017, 7, 45759.	3.3	41
97	Near Activation and Differential Activation in Enzymatic Reactions. International Journal of Chemical Kinetics, 2017, 49, 305-318.	1.6	2
98	A global traitâ€based approach to estimate leaf nitrogen functional allocation from observations. Ecological Applications, 2017, 27, 1421-1434.	3.8	59
99	A new theory of plantâ€“microbe nutrient competition resolves inconsistencies between observations and model predictions. Ecological Applications, 2017, 27, 875-886.	3.8	90
100	Global wetland contribution to 2000â€“2012 atmospheric methane growth rate dynamics. Environmental Research Letters, 2017, 12, 094013.	5.2	129
101	Microbial community-level regulation explains soil carbon responses to long-term litter manipulations. Nature Communications, 2017, 8, 1223.	12.8	99
102	Interannual Variation in Hydrologic Budgets in an Amazonian Watershed with a Coupled Subsurfaceâ€“Land Surface Process Model. Journal of Hydrometeorology, 2017, 18, 2597-2617.	1.9	17
103	Methanogenesis in oxygenated soils is a substantial fraction of wetland methane emissions. Nature Communications, 2017, 8, 1567.	12.8	195
104	Mathematical Modelling of Arctic Polygonal Tundra with Ecosys: 1. Microtopography Determines How Active Layer Depths Respond to Changes in Temperature and Precipitation. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 3161-3173.	3.0	38
105	Mathematical Modelling of Arctic Polygonal Tundra with Ecosys: 2. Microtopography Determines How CO₂ and CH₄ Exchange Responds to Changes in Temperature and Precipitation. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 3174-3187.	3.0	41
106	Variability and quasi-decadal changes in the methane budget over the period 2000â€“2012. Atmospheric Chemistry and Physics, 2017, 17, 11135-11161.	4.9	85
107	Coupling a three-dimensional subsurface flow and transport model with a land surface model to simulate streamâ€“aquiferâ€“land interactions (CPÂv1.0). Geoscientific Model Development, 2017, 10, 4539-4562.	3.6	25
108	Windthrow Variability in Central Amazonia. Atmosphere, 2017, 8, 28.	2.3	29

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109	20thÂcentury changes in carbon isotopes and water-use efficiency: tree-ring-based evaluation of the CLM4.5 and LPX-Bern models. Biogeosciences, 2017, 14, 2641-2673.	3.3	81
110	SUPECA kinetics for scaling redox reactions in networks of mixed substrates and consumers and an example application to aerobic soil respiration. Geoscientific Model Development, 2017, 10, 3277-3295.	3.6	20
111	PeRL: aÂcircum-Arctic Permafrost Region Pond andÂLakeÂdatabase. Earth System Science Data, 2017, 9, 317-348.	9.9	62
112	A multi-scale comparison of modeled and observed seasonal methane emissions in northern wetlands. Biogeosciences, 2016, 13, 5043-5056.	3.3	24
113	Reviews and syntheses: Four decades of modeling methane cycling in terrestrial ecosystems. Biogeosciences, 2016, 13, 3735-3755.	3.3	102
114	Technical Note: A generic law-of-the-minimum flux limiter for simulating substrate limitation in biogeochemical models. Biogeosciences, 2016, 13, 723-735.	3.3	6
115	Multiple soil nutrient competition between plants, microbes, and mineral surfaces: model development, parameterization, and example applications in several tropical forests. Biogeosciences, 2016, 13, 341-363.	3.3	125
116	Landâ€atmosphere coupling and climate prediction over the U.S. Southern Great Plains. Journal of Geophysical Research D: Atmospheres, 2016, 121, 12,125.	3.3	46
117	Representing leaf and root physiological traits in CLM improves global carbon and nitrogen cycling predictions. Journal of Advances in Modeling Earth Systems, 2016, 8, 598-613.	3.8	93
118	A Hybrid Reducedâ€Order Model of Fineâ€Resolution Hydrologic Simulations at a Polygonal Tundra Site. Vadose Zone Journal, 2016, 15, 1-14.	2.2	8
119	Root traits explain observed tundra vegetation nitrogen uptake patterns: Implications for traitâ€based land models. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 3101-3112.	3.0	52
120	Separating the effects of phenology and diffuse radiation on gross primary productivity in winter wheat. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 1903-1915.	3.0	28
121	Accurate and efficient prediction of fineâ€resolution hydrologic and carbon dynamic simulations from coarseâ€resolution models. Water Resources Research, 2016, 52, 791-812.	4.2	21
122	The fan of influence of streams and channel feedbacks to simulated land surface water and carbon dynamics. Water Resources Research, 2016, 52, 880-902.	4.2	34
123	Attribution of changes in global wetland methane emissions from pre-industrial to present using CLM4.5-BGC. Environmental Research Letters, 2016, 11, 034020.	5.2	21
124	The global methane budget 2000â€“2012. Earth System Science Data, 2016, 8, 697-751.	9.9	824
125	Incorporating root hydraulic redistribution in <scp>CLM</scp>4.5: Effects on predicted site and global evapotranspiration, soil moisture, and water storage. Journal of Advances in Modeling Earth Systems, 2015, 7, 1828-1848.	3.8	46
126	Toward improved model structures for analyzing priming: potential pitfalls of using bulk turnover time. Global Change Biology, 2015, 21, 4298-4302.	9.5	23

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127	Observed allocations of productivity and biomass, and turnover times in tropical forests are not accurately represented in CMIP5 Earth system models. Environmental Research Letters, 2015, 10, 064017.	5.2	51
128	The Rainfall Sensitivity of Tropical Net Primary Production in CMIP5 Twentieth- and Twenty-First-Century Simulations*. Journal of Climate, 2015, 28, 9313-9331.	3.2	1
129	Scaling impacts on environmental controls and spatial heterogeneity of soil organic carbon stocks. Biogeosciences, 2015, 12, 3993-4004.	3.3	42
130	WETCHIMP-WSL: intercomparison of wetland methane emissions models over West Siberia. Biogeosciences, 2015, 12, 3321-3349.	3.3	81
131	Controls on terrestrial carbon feedbacks by productivity versus turnover in the CMIP5 Earth System Models. Biogeosciences, 2015, 12, 5211-5228.	3.3	81
132	Impacts of Agricultural Nitrogen on the Environment and Strategies to Reduce these Impacts. Procedia Environmental Sciences, 2015, 29, 303.	1.4	29
133	Improved modelling of soil nitrogen losses. Nature Climate Change, 2015, 5, 705-706.	18.8	56
134	Statistical uncertainty of eddy covariance CO2 fluxes inferred using a residual bootstrap approach. Agricultural and Forest Meteorology, 2015, 206, 163-171.	4.8	6
135	Permafrost carbonâ^'climate feedback is sensitive to deep soil carbon decomposability but not deep soil nitrogen dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 3752-3757.	7.1	233
136	The effect of temperature on the rate, affinity, and 15N fractionation of NO3 â^' during biological denitrification in soils. Biogeochemistry, 2015, 124, 235-253.	3.5	8
137	Temporal evolution of soil moisture statistical fractal and controls by soil texture and regional groundwater flow. Advances in Water Resources, 2015, 86, 155-169.	3.8	22
138	Permafrost thaw and resulting soil moisture changes regulate projected high-latitude CO ₂ and CH ₄ emissions. Environmental Research Letters, 2015, 10, 094011.	5.2	208
139	Weaker soil carbonâ€"climate feedbacks resulting from microbial and abiotic interactions. Nature Climate Change, 2015, 5, 56-60.	18.8	184
140	Technical Note: Simple formulations and solutions of the dual-phase diffusive transport for biogeochemical modeling. Biogeosciences, 2014, 11, 3721-3728.	3.3	9
141	Long residence times of rapidly decomposable soil organic matter: application of a multi-phase, multi-component, and vertically resolved model (BAMS1) to soil carbon dynamics. Geoscientific Model Development, 2014, 7, 1335-1355.	3.6	97
142	Characterizing coarse-resolution watershed soil moisture heterogeneity using fine-scale simulations. Hydrology and Earth System Sciences, 2014, 18, 2463-2483.	4.9	40
143	Active-Layer Thickness across Alaska: Comparing Observation-Based Estimates with CMIP5 Earth System Model Predictions. Soil Science Society of America Journal, 2014, 78, 894-902.	2.2	36
144	Meta-analysis of high-latitude nitrogen-addition and warming studies implies ecological mechanisms overlooked by land models. Biogeosciences, 2014, 11, 6969-6983.	3.3	34

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145	A reduced-order modeling approach to represent subgrid-scale hydrological dynamics for land-surface simulations: application in a polygonal tundra landscape. Geoscientific Model Development, 2014, 7, 2091-2105.	3.6	22
146	The response of the18O/16O composition of atmospheric CO2to changes in environmental conditions. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 55-79.	3.0	6
147	Impacts of climate extremes on gross primary production under global warming. Environmental Research Letters, 2014, 9, 094011.	5.2	49
148	Biases in regional carbon budgets from covariation of surface fluxes and weather in transport model inversions. Atmospheric Chemistry and Physics, 2014, 14, 1571-1585.	4.9	4
149	Expert assessment of vulnerability of permafrost carbon to climate change. Climatic Change, 2013, 119, 359-374.	3.6	257
150	Using model reduction to predict the soil-surface C¹⁸OO flux: an example of representing complex biogeochemical dynamics in a computationally efficient manner. Geoscientific Model Development, 2013, 6, 345-352.	3.6	5
151	Analysis of Permafrost Thermal Dynamics and Response to Climate Change in the CMIP5 Earth System Models. Journal of Climate, 2013, 26, 1877-1900.	3.2	326
152	A multi-year record of airborne CO₂ observations in the US Southern Great Plains. Atmospheric Measurement Techniques, 2013, 6, 751-763.	3.1	44
153	CLM4-BeTR, a generic biogeochemical transport and reaction module for CLM4: model development, evaluation, and application. Geoscientific Model Development, 2013, 6, 127-140.	3.6	50
154	Impacts of a new bareâ€soil evaporation formulation on site, regional, and global surface energy and water budgets in CLM4. Journal of Advances in Modeling Earth Systems, 2013, 5, 558-571.	3.8	26
155	Empirical estimates to reduce modeling uncertainties of soil organic carbon in permafrost regions: a review of recent progress and remaining challenges. Environmental Research Letters, 2013, 8, 035020.	5.2	68
156	Effects of Soil Moisture on the Responses of Soil Temperatures to Climate Change in Cold Regions*. Journal of Climate, 2013, 26, 3139-3158.	3.2	68
157	Present state of global wetland extent and wetland methane modelling: conclusions from a model inter-comparison project (WETCHIMP). Biogeosciences, 2013, 10, 753-788.	3.3	475
158	Present state of global wetland extent and wetland methane modelling: methodology of a model inter-comparison project (WETCHIMP). Geoscientific Model Development, 2013, 6, 617-641.	3.6	165
159	A total quasi-steady-state formulation of substrate uptake kinetics in complex networks and an example application to microbial litter decomposition. Biogeosciences, 2013, 10, 8329-8351.	3.3	79
160	A new top boundary condition for modeling surface diffusive exchange of a generic volatile tracer: theoretical analysis and application to soil evaporation. Hydrology and Earth System Sciences, 2013, 17, 873-893.	4.9	51
161	Evaluating the agreement between measurements and models of net ecosystem exchange at different times and timescales using wavelet coherence: an example using data from the North American Carbon Program Site-Level Interim Synthesis. Biogeosciences, 2013, 10, 6893-6909.	3.3	30
162	Hydrologic control of the oxygen isotope ratio of ecosystem respiration in a semi-arid woodland. Biogeosciences, 2013, 10, 4937-4956.	3.3	5

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163	The effect of vertically resolved soil biogeochemistry and alternate soil C and N models on C dynamics of CLM4. Biogeosciences, 2013, 10, 7109-7131.	3.3	359
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